

## REMARKS

Claims 1, 2 and 4-8 remain. Those claims stand rejected as unpatentable over *Seto* (5,626,740) in view of *Conover*. In that rejection, *Conover* is described as teaching a hydrophobic bridge of which portions contacting with the liquid reservoirs are hydrophilic. However, the applicants submit and urge that *Conover* in fact does not so teach, and traverse the rejection based on *Conover*.


Ion activity-measuring devices according to the present invention provide improved reproducibility of measurement. The reason for this improved result is discussed in the specification in the paragraph commencing at line 8 of page 12 and continuing to page 13. Summarizing that information, conventional hydrophobic bridges have a uniform material along the direction of liquid permeation but the fronts of the liquids permeated from the first to second liquid reservoirs are not uniform in many cases. This non-uniformity is considered to invite partial contact or mixing of the liquids. However, in an ion activity-measuring device *according to the present invention*, a three-part bridge structure of hydrophilic portion/hydrophobic portion/hydrophilic portion is formed between the liquid reservoirs along the direction of liquid permeation. The liquids in both reservoirs permeate into the hydrophilic portions first, but do not reach the center portion at once due to the hydrophobicity of the center portion. After a sufficient amount of the liquid is retained in the hydrophilic portions, the liquids then advance toward the hydrophobic portion and both liquids are brought into contact with each other. The present inventors disclose that their invented arrangement suppresses the partial contact and mixing of the liquids, considered to adversely affect reproducibility of ion activity measurement in the prior art.

Claim 1 by its terms requires "a hydrophobic bridge of which portions contacting with the liquid reservoirs are hydrophilic". Method Claim 6 incorporates the same limitation. As detailed below, *Conover* fails to teach or suggest the claimed invention including that limitation, invented by the present applicants.

*Conover* does mention that his porous rods "can be hydrophilic and conductive or hydrophobic and non-conductive. The use of conductive or non-conductive material between a pair of electrodes is determined by the analyses to be carried out" (column 9, lines 49-53; column 11, lines 1-4; and column 15, lines 58-61). In other words, *Conover* teaches hydrophobic *or* hydrophilic material, but only one or the other. Nowhere does that reference acknowledge or discuss the problem confronted and solved by the present applicants. Nowhere does that reference suggest or even hint at a bridge having a three-part structure of hydrophilic portion/hydrophobic portion/hydrophilic portion along the direction of liquid permeation, as disclosed and claimed herein. Accordingly, one of ordinary skill in the art, knowing of *Conover* (and *Seto*) but not of the applicants' teachings, lacks any teaching to produce a measuring device as in Claim 1 or the method as in Claims 6-8. Any suggestion that the routineer would have found obvious the present three-part bridge structure, based only on *Conover*, is speculative at best and would not support a rejection based on 35 U.S.C. 103. Accordingly, those claims define inventions that are not obvious over the art of record, and the claims thus are allowable over that art.

The foregoing is submitted as a complete response to the Office action identified above. This application is in condition for allowance and the applicants solicit a notice to that effect.

Respectfully submitted,

  
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